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Successful endoscopic removal of fractured basket traction wire during mechanical lithotripsy

Mekanik litotripsi esnasında kırılan taş basketi germe telinin endoskopik olarak başarılı şekilde çıkarılması

To the Editor,

Endoscopic retrograde cholangiopancreatography (ERCP) is the best choice for management of choledocholithiasis. Complications of ERCP have been reported to occur in 5-10% of cases, ranging from minor bleeding to severe pancreatitis. Rare complications of ERCP are the impaction of baskets and balloons. Fracture of the basket traction wire can occur during endoscopic mechanical lithotripsy (1). Herein, we report an unusual complication of ERCP with fracture of the traction wire. We used a new method for the removal of the fractured traction wire.

A 71-year-old woman was consulted to our department with complaints of jaundice and abdominal pain. Her physical examination was remarkable for scleral icterus, jaundice and right upper quadrant tenderness. Laboratory tests revealed total bilirubin: 5.5 mg/dl (0.3-1), conjugated bilirubin: 3.19 mg/dl (0.1-0.3), alanine aminotransferase (ALT): 602 IU/ml (0-40), aspartate aminotransferase (AST): 303 IU/ml (0-40), ALP: 635 IU/ml (0-270), and gamma glutamyl transpeptidase (GGT): 422 IU/ml (0-55). Other laboratory tests were normal. Serological markers for acute viral hepatitis were negative. Hepatobiliary ultrasonography was performed and showed that the common bile duct (CBD) and intrahepatic ducts were dilated. Based on these findings, ERCP was performed and demonstrated a filling defect compatible with a stone in a 15 mm CBD. After sphincterotomy, a balloon catheter was used to extract the stone but the attempt failed. Then, a Dormia basket was passed into the CBD and the stone was engaged into the basket. Nevertheless, the stone could not be fragmented and the basket could not be withdrawn into the duodenum. The basket handle was then cut off and mechanical lithotripsy with Soehendra lithotripter was applied. During the lithotripsy procedure, the basket traction wire was fractured at the level of the stomach (Figure 1). Another basket was placed into the CBD to extract the stone, which was engaged in the fractured basket, and it

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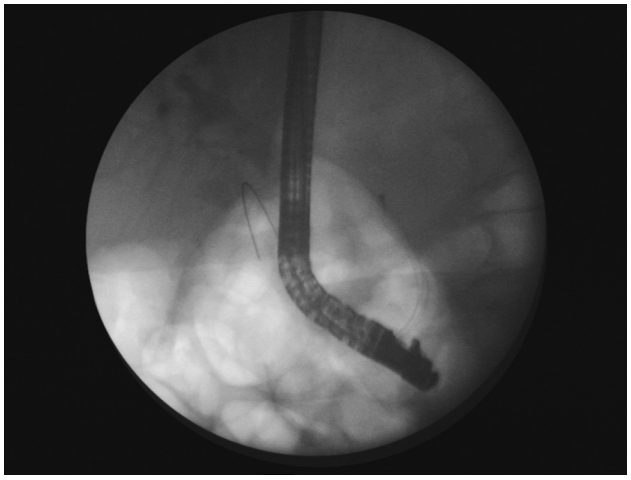

Figure 1. ERCP image of fractured traction wire.

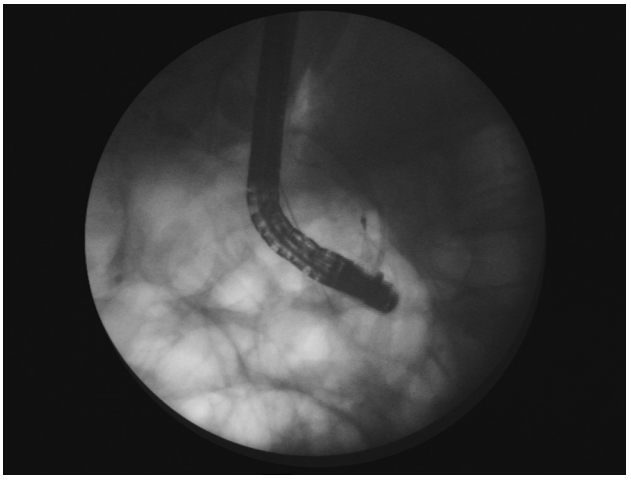

Figure 2. ERCP image of balloon catheter and fractured traction wire.

was fragmented into pieces. Finally, a balloon catheter was introduced and the fractured basket with fragmented stone was easily withdrawn into the duodenum (Figure 2). A 10 French (F) plastic stent was placed into the CBD to maintain biliary drainage. The patient was discharged without any complications one day after the procedure.

During the ERCP, sphincterotomy and balloon catheter can fail due to the presence of a large stone. In this condition, mechanical lithotripsy may be the first choice after the failure of an initial trial with the Dormia basket. Complications of using the Dormia basket are very rare. Traction wire or basket fracture, frequently following stone impaction, can be seen as an unusual complication of ERCP (2,3). Reported strategies for these complications involve use of biliary stent and extended sphincterotomy (4,5). In this case, we did not extend the sphincterotomy, because electrical current could have spread through the bare wire and damaged other tissues. We used both a second basket and a balloon catheter to remove the fractured wire. To our knowledge, this is the first successful case presentation with a second attempt of basket lithotripsy for an engaged stone in a fractured basket wire.

In conclusion, endoscopists should be aware of potential complications such as this case, and they should try various methods and strategies as mentioned above to avoid surgery.

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